PHILOSOPHICAL MAGAZINE LETTERS, 1998, VOL. 77, NO. 6, 381–383

SUBJECT INDEX

Vol. 77

PAGE

Aharonov–Bohm effect at dislocations in semiconductors 221
Al–Cu–Ru icosahedral quasicrystal 165
γ-(Al–Cu–Ru–Si), structure of cubic phase 165
Al–Ni–Co, comparison with Zn–Mg–Dy 205
Alumina, new metastable polymorph 117
Amorphization of Zr–Al–Ni–Cu during cold rolling 109
Amorphous–nanocrystalline phase transformation in Se 181
Atomic force microscopy of slip lines on surface of nickel 23
Atomic steps formed on fcc metal surfaces 125
Atomic-scale mapping of distortions in $InGa_{1-x}As/GaAs$ 249

$BaO:TiO_2:Fe_2O_3$, magnetic multilayer in compounds of 279

C_{60} crystals, microhardness and dislocation mobility in 321
Cathodoluminescence from nano-indentations in MgO 7
Chalcogenide glasses, intrinsic dipoles in 295
Chalcogenides, model for photostructural changes in amorphous 153
Coercivity in nanocrystalline soft magnetic materials 371
Conical indenters, analysis of loading curves 39
$CoSi_2$–Si(100) reconstructed interface, model for 147
Cracks, fast, faster and fastest 79
Creep of Ni_3Al 307
Cu, deformation behaviour in 83
Cu_3Au, point defects and threshold displacement energies in 229
Cu_3Pt and CuPt order phases 49

Decagonal approximants in Ga_6Mn_5, HREM study of 359
Deformation behaviour in Cu under uniaxial tension 83
Deformation, brittle regime in ice 241
Diamond, voidites in 135
Dipolar loops in γ-TiAl, formation mechanism of 33
Dislocation mobility and microhardness in C_{60} crystals 321
Dislocation single kinks in gamma-TiAl 327
Dislocations, rapid evaluation of elastic interactions among 187
Dislocations in semiconductors, Aharonov–Bohm effect at 221
Displacement energies in Cu_3Au 229
Domain boundaries in zirconia, segregation of yttrium to 199

Elastic compliance of a surface film 69
Elastic interactions among dislocations 187
Electrical and magnetic properties of nanocrystalline Hf–Ni alloy 345
Electrical resistivity and Seebeck coefficient of $YbAl_3$ 105
Electromagnetic radiation pulses during fracture of granite 289
Electron-energy-loss spectroscopy of quasicrystal $Al_{70}Ni_{15}Co_{15}$ 351
Electronic structure of decagonal quasicrystal $Al_{70}Ni_{15}Co_{15}$ 351
Embedded atom potentials for dislocation kinks in γ-TiAl 327
Excitonic states in Hubbard model 59

Film on a substrate, elastic compliance of 69
Foam, estimate of shear modulus in 257
Fracture of granite, electromagnetic pulses during 289

Frank–Kasper quasicrystal in Zn–Mg–Dy 205

Ga_6Mn_5, HREM study of structure of decagonal approximants in 359
Grain boundary in MgO empirical and LDA studies of. 315
Grain-boundary fatigue in ice 241
Grain boundary, structure transition in ZnO 191
Granite, triaxial fracture of 289

High-resolution electron microscopy of islands in $In_xGa_{1-x}/GaAs$ 249
High-resolution microscopy of microtwinning in $HoFe_6Ge_6$ 275
$HoFe_6Ge_6$, HREM studies of microtwinning in 275
HREM study of decagonal approximants in Ga_6Mn_5 359
Hubbard model, excitonic states in one-dimensional 59

Ice, step-loading history and grain boundary fatigue in 241
Image processing of strained islands of $InGa_{1-x}As/GaAs$ 249
Indentation loading curves using conical indenters 39
$InGa_{1-x}As/GaAs$, lattice distortions in islands of 249
InP, plastic deformation of 173
Interface, (2×1) reconstructed $CoSi_2$–Si(100) 147
Intrinsic dipoles in chalcogenide glasses 295
Ion implantation of silver in silicon polymer. 261

Kelvin–Stamenovic estimate of shear modulus of foam 257

Lanthanum trifluoride, oscillations in nanocrystals of 267
LDA study of MgO (100) twist grain boundary 315
Lithium niobate, structure of mechanical twin in 17

Magnetic and electrical properties of nanocrystalline Hf–Ni alloy 345
Magnetic multilayers in $BaO:TiO_2:Fe_2O_3$ compounds 279
Magnetic nanocrystalline materials, coercivity in 371
Mechanical-attrition-induced phase transformations in Se 181
Metallic glasses, model for nucleation in. 337
Meyer–Neldel rule in $YBa_2Cu_3O_7$ films 159
MgO, cathodoluminescence from nano-indentations in 7
MgO (100) twist grain boundary, empirical and LDA studies of 315
Microhardness and dislocation mobility in C_{60} crystals 321
Microtwinning in $HoFe_6Ge_6$ 275

Nano-indentations in MgO, cathodoluminescence from 7
Nanoclusters of lanthanum trifluoride 267
Nanocrystalline Hf–Ni alloy, electrical and magnetic properties of 345
Nanocrystalline soft magnetic materials, coercivity in 371
Ni_3Al, primary creep of 307
Nickel, atomic force microscopy of slip lines on surface of 23
Nucleation in bulk metallic glasses 337
Nucleation of lead on quasicrystals 89

Optical study of silver particles in silicon polymer 261

Pb, heterogeneous nucleation on quasicrystals 89
Phase transformations in Se 181
Phases in Cu–Pt, effect of ternary addition 49
Photostructural changes in amorphous chalcogenides 153
Plastic deformation of InP between 77 and 500 K 173
Point-defect properties in Cu_3Au 229

Quasicrystal, Al–Cu–Ru, a new approximant phase 165
Quasicrystal $Al_{70}Ni_{15}Co_{15}$, EELS study of 351
Quasicrystal, decagonal, in Zn–Mg–Dy 205
Quasicrystal, decagonal, in Zn–Mg–rare-earth systems 213
Quasicrystalline phases in Zn–Mg–rare-earth system 95
Quasicrystals, nucleation of lead on 89

Se, amorphous–nanocrystalline–amorphous phase transformations in 181
Segregation of yttrium in zirconia 199
Semiconductors, Aharonov–Bohm effect at dislocations in 221
Shear modulus in foam, estimate of 257
Silicon polymer, silver particles in 261
Silver particles in silicon polymer. 261
Slip lines on surface of fatigued nickel, atomic force microscopy of 23
Step-loading history in ice 241
Structure of Frank–Kasper quasicrystal in Zn–Mg–Dy 205
Structure transition in ZnO grain boundary 191
Surface steps of fcc metals, energies of 125
Synchrotron radiation, observation of deformation in Cu by 83

γ-TiAl, formation mechanism of dipolar loops in 33
γ-TiAl, simulation of dislocation single kinks in 327
Twin in lithium niobate, model structure of 17

Voidites in polycrystalline diamond 135
Volterra dislocations, deviations from 141

Y_2BaCuO_5 particles in $YBa_2Cu_3O_{7-x}$ crystals 301
$YBa_2Cu_3O_7$, Meyer–Neldel rule in films of 159
$YBa_2Cu_3O_{7-x}$, Y_2BaCuO_5 particles trapped in 301
$YbAl_3$, hot-pressed, electrical resistivity and Seebeck coefficient of 105
Yttrium ion segregation in zirconia 199

Zirconia, segregation of yttrium in 199
Zn–Mg–Dy, Frank–Kasper quasicrystal in 205
Zn–Mg–rare-earth system, hexagonal phase in 95
Zn–Mg–rare-earth system, decagonal quasicrystal in 213
ZnO, structure transition in grain boundary 191
Zr–Al–Ni–Cu, amorphization during cold rolling of 109

PHILOSOPHICAL MAGAZINE LETTERS, 1998, VOL. 77, NO. 6, 385–388

INDEX OF AUTHORS (WITH TITLES OF PAPERS)

Vol. 77

PAGE

Abdel-Wahab, F., Shimakawa, K., and Hirabayashi, I.: The Meyer–Neldel rule in non-metallic $YBa_2Cu_3O_y$ films 159
Abe, E., Sato, T. J., and Tsai, A. P.: The structure of a Frank–Kasper decagonal quasicrystal in the Zn–Mg–Dy system: comparison with the Al–Ni–Co system 205
Abe, E., *see* Sato, T. J.
Abe, E., *see* Singh, A.
Adriaenssens, G. J., *see* Baranovskii, S. D.
Ausloos, M., *see* Vandewalle, N.

Bacon, D. J., *see* Gao, F.
Bahat, D., *see* Rabinovitch, A.
Baranovskii, S. D., Tikhomirov, V. K., and Adriaenssens, G. J.: Evidence for a temperature dependence of the intrinsic dipoles in chalcogenide glasses . . 295
Beauchamp, P., *see* Brochard, S.
Bendersky, L. A., and Bonevich, J. E.: Magnetic multilayers as a structural component in a series of BaO : TiO_2 : Fe_2O_3 compounds 279
Bergström, J., *see* Gupta, V.
Bernaerts, D., *see* Chen, J. H.
Bishop, A. R., *see* Gulacsi, M.
Bonevich, J. E., *see* Bendersky, L. A.
Brandon, D. G., *see* Levin, I.
Brochard, S., Beauchamp, P., and Grilhé, J.: Energies of the atomic steps formed on low-index surfaces of fcc metals 125
Bulatov, V. L., Grimes, R. W., and Harker, A. H.: Low-frequency oscillations in nanoclusters of lanthanum trifluoride, ... 267
Buschmann, V., Fedina, L., Rodewald, M., and Van Tendeloo, G.: A new model for the (2 x 1) reconstructed $CoSi_2$–Si(100) interface 147

Cadogan, J. M., *see* Suzuki, K.
Chang, Y. W., *see* Kim, K. H.
Chaturvedi, M. C., *see* Zhang, Y. G.
Chaudhri, M. M.: Enhanced cathodoluminescence from nano-indentations in MgO 7
Chen, C. Q., *see* Zhang, Y. G.
Chen, J. H., Bernaerts, D., Seo, J. W., Van Tendeloo, G., and Kagi, H.: Voidites in polycrystalline natural diamond 135
Cheng, C.-N., *see* Cheng, Y.-T.
Cheng, Y.-T., and Cheng, C.-N.: Analysis of indentation loading curves obtained using conical indenters 39
Cloots, R., *see* Vandewalle, N.

Davis, E. A.: Editorial 1
Delamarre, C., *see* Kret, S.
Dimiduk, D. M., *see* Simmons, J. P.
Dobrowolski, W., *see* Figielski, T.
Dong, Z. F., Peng, L.-M., Lück, R., and Lu, K.: Thermal stability of electrical and magnetic properties of a nanocrystalline Hf–Ni alloy 345
Dubon, A., *see* Kret, S.

Fecht, H.-J., *see* Sagel, A.
Fedina, L., *see* Buschmann, V.
Figielski, T., Wosinski, T., Makosa, A., Dobrowolski, W., and Raczynska, J.: Solid-state Aharonov–Bohm effect at dislocations in semiconductors 221
Fort, D., *see* Zhu, W.
Frid, V., *see* Rabinovitch, A.
Furukawa, Y., *see* Park, B. M.

Ganjoo, A., *see* Shimakawa, K.
Gao, F., Bacon, D. J., and Newall, S.: Point-defect properties and threshold displacement energies in Cu_3Au 229
Gilman, J. J.: Fast, faster, and fastest cracks 79
Grilhé, J., *see* Brochard, S.
Grimes, R. W., *see* Bulatov, V. L.
Gulacsi, M., and Bishop, A. R.: Excitonic states in the one-dimensional Hubbard model 59
Guo, F. Q., and Lu, K.: Amorphous–nanocrystalline–amorphous phase transformation in Se induced by mechanical attrition 181
Gupta, V., Bergström, J., and Picu, C. R.: Effect of step-loading history and related grain-boundary fatigue in freshwater columnar ice in the brittle deformation regime 241

Harding, J. H., and Noguera, C.: Empirical and *ab initio* local-density approximation studies of an MgO(100) twist grain boundary 315
Harker, A. H., *see* Bulatov, V. L.
Hirabayashi, I., *see* Abdel-Wahab, F.
Hiraga, K., *see* Sugiyama, K.
Holste, C., *see* Schwab, A.

Ikuhara, Y., *see* Ogawa, H.
Inoue, A., *see* Terauchi, M.

Jones, I. P., *see* Zhu, W.

Kagi, H., *see* Chen, J. H.
Kalnacs, J., *see* Manika, I.
Kato, T., *see* Sugiyama, K.
Kelton, K. F.: A new model for nucleation in bulk metallic glasses 337
Khaibullin, I. B., *see* Stepanov, A. L.
Khaibullin, R. I., *see* Stepanov, A. L.
Kim, K. H., Koo, Y. M., and Chang, Y. W.: Observation by synchrotron radiation of deformation behaviour in single-crystal Cu under uniaxial tension . . . 83
Kiselev, N. A., *see* Sarrazit, F.
Kitamura, K., *see* Park, B. M.
Koo, Y. M., *see* Kim, K. H.
Kret, S., Delamarre, C., Laval, J. Y., and Dubon, A.: Atomic-scale mapping of local lattice distortions in highly strained coherent islands of $In_xGa_{1-x}As/GaAs$ by high-resolution electron microscopy and image processing 249
Kuo, K. H., *see* Wu, J. S.
Kuznestsov, V. L., *see* Rowe, D. M.
Kuzukawa, Y., *see* Shimakawa, K.

Laval, J. Y., *see* Kret, S.
Lei, C. H., *see* Zhang, Y. G.
Levin, I., and Brandon, D. G.: A new metastable alumina polymorph with monoclinic symmetry 117
Li, P., *see* Zhang, Y. G.

Li, X. Z., *see* Wu, J. S.
Lu, K., *see* Dong, Z. F.
Lu, K., *see* Guo, F. Q.
Lück, R., *see* Dong, Z. F.

Makosa, A., *see* Figielski, T.
Manika, I., Maniks, J., and Kalnacs, J.: Studies of the microhardness and dislocation mobility in C_{60} crystals under oxidizing conditions 321
Maniks, J., *see* Manika, I.
Masumoto, T., *see* Terauchi, M.
Meißner, O., *see* Schwab, A.
Min, G., *see* Rowe, D. M.
Mitsui, K., Takahashi, M., and Takezawa, T.: Effect of ternary addition on the formation of Cu_3Pt and CuPt order phases in the Cu–Pt system 49

Newall, S., *see* Gao, F.
Nishisako, T., *see* Suzuki, T.
Nissen, H.-U., *see* Oleksyn, O.
Noguera, C., *see* Harding, J. H.

Ogawa, H., Yasuda, A., Shibata, N., Ikuhara, Y., and Sakuma, T.: Segregation of yttrium ions to domain boundaries of tetragonal zirconia 199
Oleksyn, O., Nissen, H.-U., and Wessicken, R.: Microtwinning in $HoFe_6Ge_6$ studied by high-resolution electron microscopy and electron diffraction 275

Park, B. M., Kitamura, K., Terabe, K., Furukawa, Y., and Suzuki, E.: A model structure of the mechanical twin in stoichiometric lithium niobate single crystal 17
Peng, L.-M., *see* Dong, Z. F.
Perepezko, J. H., *see* Sagel, A.
Picu, C. R., *see* Gupta, V.
Pirard, E., *see* Vandewalle, N.
Pond, R. C., *see* Sarrazit, F.

Rabinovitch, A., Frid, V., and Bahat, D.: Parametrization of electromagnetic radiation pulses obtained by triaxial fracture of granite samples 289
Raczynska, J., *see* Figielski, T.
Rao, S. I., *see* Simmons, J. P.
Rodewald, M., *see* Buschmann, V.
Rodin, G. J.: Towards rapid evaluation of the elastic interactions among three-dimensional dislocations 187
Rowe, D. M., Min, G., and Kuznestsov, V. L.: Electrical resistivity and Seebeck coefficient of hot-pressed $YbAl_3$ over the temperature range 150–700 K . . 105

Sagel, A., Sieber, H., Fecht, H.-J., and Perepezko, J. H.: Amorphization of Zr–Al–Ni–Cu during cold rolling of elemental foils at ambient temperatures . . . 109
Saito, K., *see* Sugiyama, K.
Sakuma, T., *see* Ogawa, H.
Sarrazit, F., Pond, R. C., and Kiselev, N. A.: Structure transition in a ZnO grain boundary 191
Sato, T. J., Abe, E., and Tsai, A. P.: Composition and stability of decagonal quasicrystals in the Zn–Mg–rare-earth systems 213
Sato, T. J., *see* Abe, E.
Schoeck, G.: Deviations from Volterra dislocations 141
Schwab, A., Meißner, O., and Holste, C.: Atomic force microscopy of slip lines on the surface of a fatigued nickel single crystal 23
Seo, J. W., *see* Chen, J. H.
Shibata, N., *see* Ogawa, H.

Shimakawa, K., *see* Abdel-Wahab, F.
Shimakawa, K., Yoshida, N., Ganjoo, A., Kuzukawa, Y., and Singh, J.: A model for the photostructural changes in amorphous chalcogenides 153
Sieber, H., *see* Sagel, A.
Simmons, J. P., Rao, S. I., and Dimiduk, D. M.: Simulation of dislocation single kinks in γ-TiAl using embedded-atom method potentials 327
Singh, A., Abe, E., and Tsai, A. P.: A hexagonal phase related to quasicrystalline phases in Zn–Mg–rare-earth system 95
Singh, A., and Tsai, A. P.: Heterogeneous nucleation of lead on quasicrystals. . 89
Singh, J., *see* Shimakawa, K.
Smallman, R. E., *see* Zhu, W.
Stepanov, A. L., Khaibullin, R. I., and Khaibullin, I. B.: An optical study of silver particles fabricated by ion implantation in a silicon polymer 261
Sugiyama, K., Kato, T., Saito, K., and Hiraga, K.: The crystal structure of a γ-(Al–Cu–Ru–Si) cubic phase: a new approximant phase for the Al–Cu–Ru icosahedral quasicrystal 165
Suzuki, E., *see* Park, B. M.
Suzuki, K., and Cadogan, J. M.: Critical behaviour in the temperature dependence of the coercivity for nanocrystalline soft-magnetic materials 371
Suzuki, T., Nishisako, T., Taru, T., and Yasutomi, T.: Plastic deformation of InP at temperatures between 77 and 500 K. 173

Takahashi, M., *see* Mitsui, K.
Takezawa, T., *see* Mitsui, K.
Tanaka, M., *see* Terauchi, M.
Taru, T., *see* Suzuki, T.
Terabe, K., *see* Park, B. M.
Terauchi, M., Ueda, H., Tanaka, M., Tsai, A.-P., Inoue, A., and Masumoto, T.: Electron-energy-loss spectroscopy study of the electronic structure of a stable decagonal quasicrystal $Al_{10}Ni_{15}Co_{15}$ 351
Tikhomirov, V. K., *see* Baranovskii, S. D.
Tsai, A. P., *see* Abe, E.
Tsai, A. P., *see* Terauchi, M.
Tsai, A. P., *see* Sato, T. J.
Tsai, A. P., *see* Singh, A.

Ueda, H., *see* Terauchi, M.

Van Tendeloo, G., *see* Buschmann, V.
Van Tendeloo, G., *see* Chen, J. H.
Vandewalle, N., Pirard, E., Cloots, R., and Ausloos, M.: The non-trivial dispersion of Y_2BaCuO_5 particles trapped in the $YBa_2Cu_3O_{7-x}$ crystal matrix 301

Weaire, D.: On the Kelvin–Stamenovic estimate of the shear modulus of a foam . 257
Wessicken, R., *see* Oleksyn, O.
Wosinski, T., *see* Figielski, T.
Wu, J. S., Li, X. Z., and Kuo, K. H.: A high-resolution electron microscopy study of the structure of the (1/0, 2/1) and (1/1, 1/1) decagonal approximants in Ga_6Mn_5 359

Yasuda, A., *see* Ogawa, H.
Yasutomi, T., *see* Suzuki, T.
Yoffe, E. H.: The elastic compliance of a surface film on a substrate 69
Yoshida, N., *see* Shimakawa, K.

Zhang, Y. G., Lei, C. H., Li, P., Chen, C. Q., and Chaturvedi, M. C.: On the formation mechanism of faulted dipolar loops in γ-TiAl 33
Zhu, W., Fort, D., Jones, I. P., and Smallman, R. E.: On the primary creep of Ni_3Al 307